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Efficiency in Central Government

Sir Ian Bancroft, GCB, Civil Service Department

Sir Ian is Permanent Secretary, Civil Service Department, and Head of the Home Civil Service. This is the text of a recent address by him to a conference of the Chartered Institute of Public Finance and Accountancy.—*Editor.*

I very much welcome the opportunity to talk to you today on the subject of efficiency in central government.

In doing so, I am only too well aware that I am speaking to a body which has for long been concerned with efficiency in all its aspects in various parts of the public sector. The weight which the Exchequer and Audit Department nowadays attaches to the value of a professional qualification from the Chartered Institute of Public Finance and Accountancy speaks for itself. But there is also CIPFA's continuing work in the local authority field, in collecting and disseminating information and in maintaining professional standards. I recognise therefore that much of what I have to say will not come as any surprise to my audience. Nevertheless, the subject is as important as it is topical. And I hope it will be of interest to tell you about how we in central government are approaching the task of improving efficiency, and in particular to tell you something about the most recent developments.

The Civil Service Department's care for efficiency

I propose to talk mainly from the point of view of the Civil Service Department (CSD), which has the role of promoting central government efficiency and controlling its administrative costs. But as I go along I shall also be describing what is happening in government departments, because that is where the work of improving efficiency and cutting out waste has to go on.

The efficiency of the Civil Service has been a prime concern of the CSD since it was set up in 1968. We have some good achievements to our name, eg in computerisation. The Land Registry's Land Charges System was, for instance, adjudged by the British Computer Society to be the computer application which in 1975 most benefitted society. The system has been very successful in reducing drastically the time taken to carry out searches and in eliminating a previous backlog of work. At about the same time there were also a number of valuable innovations in the accounting field. The Trading Fund Bill of 1973 has made possible revised funding arrangements in the Royal Mint, Her Majesty's Stationery Office, the Royal Ordnance Factories and the Supplies Division of the Property Services Agency; and this has helped to improve internal control accounting.

The climate during the 1970s

But it would be unrealistic of me to ignore the fact that our work in the early part of the 1970s was taking place in a rather different context from now.

Very broadly speaking, civil servants, until the mid-1970s, were required to administer a rising level of expenditure and an expanding range of services under governments of both complexions. They did so with all the skill and inventiveness which they could command. A bright young civil servant would look for jobs which exercised his talents in areas where new policies were being forged, new social or industrial advances were being made.

Many of the accusations of Civil Service waste and extravagance which are now being levelled in the popular criticisms of the Civil Service tend to look back to this and preceding periods. To some extent this is unjust and understandably irritating for those whose task it was to devote their energies to developing services of one kind or another. Moreover, they are naturally as keen as anyone to save the services into which so much creativity and intelligence has been put. This is often in my view misconstrued as an attempt by civil servants to protect their own jobs.

But since the mid-1970s it has become increasingly clear to everyone, including the public at large, that the scope for continued growth in public expenditure was severely constrained. Particularly since the present Government took office, there has been a new and much sharper emphasis on the need to reduce inessential activity and to achieve maximum value for money. This has had very important implications for the way the Civil Service must approach its task.

The needs of the 1980s

The civil servant of the 1980s is not going to be required to exhibit any less intelligence or inventiveness than his predecessors. The demand for these qualities will remain as great as ever. But he is required now to exhibit them to a different end. The incremental days are over. The new goal to which our brightest and best minds are increasingly being focused is the goal of devising better ways for satisfying the public's requirements for governmental services within a declining total of resources. Civil Service staff numbers have fallen over the past year and in accordance with the Prime Minister's recent statement will continue to fall over the next four.

The CSD, under the direction of the Lord President of the Council, will be co-ordinating departmental plans aimed at realising these reductions in manpower; and this exercise has now set the framework for all our activity in the field of efficiency.

The Civil Service will have to concentrate in future on what is absolutely essential. We shall need to ensure that we carry out all our tasks in the simplest and most efficient way.

I am sure that the Service will show itself fully capable of adapting its work to reflect this fundamental change of emphasis. It is a primary concern of my Department to see that it does.

I personally spend a good deal of time talking to my colleagues in other departments. It is very important that we should all move forward together and carry our staffs with us. We are all closely involved in consultations with the Civil Service trade unions. This is an absolutely vital part of the process of change.

But the framework within which we are acting is of course provided by Ministers, guided by, and guiding, public opinion. It may be that we are slow to adapt to the changed environment in some areas. Where that occurs there is a legitimate ground for criticism. Sometimes however—and I suspect it will be more often—proposals for improved efficiency, better value for money, the elimination of some activities, will have to be tempered to what is judged to be politically and publicly acceptable.

I want to come back later to mentioning some of the projects conducted under the aegis of Sir Derek Rayner and in particular the one on the delivery of social security benefits, which has already been the subject of public debate in the House of Commons and elsewhere. The proposals which this latter project came up with, for changed frequency and changed methods of payment of social security benefits, make sense in efficiency terms. But they also have important political implications which need to be thoroughly considered. Political guidance will obviously be required.

There is a limit therefore to how fast we, the Civil Service, under the guidance of Ministers, can move ahead of public opinion. But public awareness of the need for greater efficiency has grown enormously in recent years, not least since the present Government took office. It provides the Civil Service both with a challenge and with an opportunity. How are we taking it?

The CSD as central controller

The CSD has traditionally operated on two fronts. First, it has exercised control over the total of relevant resources: the amount of money available for staff and staff-related expenditure across the Civil Service as a whole, and for each government department. This control is, of course, a necessary condition of achieving efficiency. Tight staffing and restricted administrative budgets compel choice. But it is not a sufficient condition. So the second front on which we need to operate must involve selective examination of the things departments do and the ways that they do them.

One can if one likes separate these two functions and speak, for example, of macro-control over the totals and micro-control or influence over what goes to make them up. But our preference is to see them as intimately related and that is reflected in the organisation of the CSD. This brings together the task of controlling the totals and the

task of bringing about greater value for money and stimulating good management practice in a single Deputy Secretary command.

Each departmental Minister, with his Permanent Secretary under him as Accounting Officer, is responsible to Parliament for the efficiency of his department. The job of the CSD as central controller is to satisfy itself that the expenditure which it authorises is justified, and that the resources consumed in consequence are properly used and the department's arrangements for resource control are sound.

Our arrangements for doing this have changed over the years with changing circumstances. There has always been a spectrum of activity, ranging outward from the basic authorisation of administrative expenditure and manpower numbers to acting as a central source of advice for departments so as to promote and cross-fertilise good management practice. Let me try and put some flesh on this.

Manpower control

First, there is the continuous task of ensuring that no more staff than necessary are employed to do the work of central government. Fundamental to this task is the critical scrutiny each year of the bids which departments put in for the next financial year, for their estimates and cash limits; the other main element is the plans which are submitted for future years as part of the public expenditure planning exercise. This is the basic budgetary control function where the CSD's role in the field of administrative expenditure strictly parallels that of the Treasury in the field of operational expenditure. The critical scrutiny of estimates and cash limits achieves substantial savings—for example, the scrutiny of the 1980-81 estimates bids by departments produced a saving of about 5,000 posts compared with the public expenditure plans.

The CSD's next function is to take the lead in carrying through special exercises to reduce Civil Service staff expenditure and numbers. There have been four such exercises in recent years. Civil Service numbers reached their highest level of 748,000 in April 1976. The previous Government then decided upon a programme of cuts which stopped future growth and aimed at achieving a reduction in the size of the Civil Service to between 735,000 and 740,000 by 1978-79.

That target was reached; by April 1979 the figure was 732,000. Under the present Government, a 3 per cent reduction in Civil Service costs was announced in May of last year. As a consequence staff numbers fell to 712,000 by 1 October 1979; and by 1 April 1980 were about 705,000. Later last year there was a longer-term savings exercise. Reductions in functions and other economies amounting to a saving of nearly 40,000 posts over the next three years were identified and announced by CSD Ministers in December. This year the Government has decided on a further 2½ per cent reduction in Civil Service manpower expenditure. It will lead to savings in 1980-81 equivalent to 15-20,000 staff. In addition, the Prime Minister an-

nounced recently that the Government intends to bring staff numbers down to about 630,000 over the next four years.

Moving slightly further out on the spectrum one comes to the work which we do on Staff Inspection and on cost-cutting.

Formal systems of staff inspection have a long ancestry in the Civil Service. When the CSD was formed, staff inspection was greatly strengthened both at the centre and in departments. A central Staff Inspection and Evaluation Unit which now numbers 40 was established. Its purpose is to guide and set the framework for a much larger number of staff inspectors operating in Departments, and under the direct control of those departments, who number about 600.

In the three latest years for which figures are available, staff inspectors have recommended reductions of about 11,400 staff: about 5·3 per cent of the posts examined. Not all recommendations have been implemented. In 1977-78, 3,560 were saved, equivalent to expenditure of some £20-21m a year. That was a substantial figure but it represented only a little over 50 per cent of the savings recommended and we hope to do better than this. A new study of staff inspection in departments is in hand and measures for improvements will be developed in the light of its results.

Cutting costs

The cost-cutting exercises have likewise been significantly extended in recent years. These are done primarily by Organisation and Methods staff, once again using a small central cadre to co-ordinate and work alongside a larger number of such staff in departments. The work has concentrated on service-wide functions such as transport, postage, messenger services, typing, reprographics, training, purchasing, stores, telecommunications and travel and visiting programmes.

For example, expenditure in the field of telecommunications in the current financial year is expected to be some £150m. A pilot study has shown the scope for worth-while economies in installations and rentals (over half the total bill) as well as on calls. This will be followed up to provide a set of economy measures for departments to apply in the course of this financial year.

I should also mention the valuable work of the Transport Economy Unit. Over the years, this small unit of two staff has saved some £15m in transport costs. In the last two years it has examined demands from Departments for a total of some 1,700 vehicles, of which about 350 have been rejected or reduced in size with savings of £800,000. They use the lever of a demand for a new vehicle to look at all the vehicles on site. In one recent case they turned down a bid for a large crane and drove another vehicle away into the bargain. This was parked outside my office for a week or two while they looked for a needy home for it.

There have been other such efforts and more will be mounted. Government is on a large scale. Its common service functions are

correspondingly large. There are always economies to be made here and greater efficiency to be sought. In co-operation with all departments, we shall continue to seek them.

The common feature of the staff inspection and cost-cutting work I have briefly described is its concentration on service-wide subjects. There are common criteria for assessing whether posts are correctly graded and carry a full load of work. Similarly all departments use cars and vans, telephones, typists and messengers. It is possible therefore for the CSD to build up a central core of expertise in these areas.

Computers and automatic data processing are a similar area where again it makes sense to provide a central pool of technical experience and advice to the Civil Service as a whole.

The Central Computer and Telecommunications Agency constitutes such a pool. Its Technical Services Division is charged with keeping abreast of computer technology and appraising the systems which suppliers propose to meet government departments' needs. It also maintains a small consultancy capability. In addition, in support of its central control function, the Agency acts as a focus of expertise in the disciplines of financial appraisal and project planning and management.

The 'Rayner' scrutinies

But the newest and perhaps most interesting field of work has been the development of a different kind of capacity. This is the capacity to scrutinise and to help to bring about improvements in functions which are specific to a single department: for example the payment of a benefit or the collection of a tax.

I would like to use this last part of my talk to say a few things about this. While the CSD has, I believe, helped to bring about a very steady increment in the efficiency of the bureaucracy, there has been a missing element. This new work can contribute very substantially, I think, to creating this element. In doing so, it should both bring together and sharpen the rest of our work and greatly assist the rest of the Civil Service.

It is fair to say that the gap which I have mentioned had been perceived for some time. But the arrival of the present administration and the particular emphasis which it has placed on the pursuit of efficiency has undoubtedly given tremendous impetus to finding ways of filling it.

Perhaps the chief development has been the setting up of a continuing programme of scrutinies of specific functions within each department. This was initiated by Sir Derek Rayner, who was appointed by the Prime Minister to advise her and her Ministers on improving efficiency and eliminating waste.

The scrutinies are done by departmental officials for their Ministers. Sir Derek Rayner and the CSD advise as necessary. The scrutinies are

thus a way of blending an impetus from the centre of Government with the normal responsibility of departmental Ministers for the policies and running of their departments.

There were 29 projects in the first round of functional scrutinies. They ranged from a study of how DHSS administered its benefit payments, to the future of the Road Construction Units, to the way the Inland Revenue dealt with the problems for the PAYE system posed by the 10m people a year who change jobs. There were many others.

The projects enquired not only into how something was done; though that is a majority component of their analysis: but also why it was done.

Thus the DHSS project found itself enquiring into why payments of benefits had to be made through a relatively expensive system of distribution and whether direct credit to individual bank accounts, which is much cheaper, could operate in this field as in others.

In asking this question it raised some substantial political difficulties. What would happen to the network of rural post offices if the substantial volume of their business which consists of benefit transactions is removed? In practice there will continue to be people, pensioners and others, who prefer to use their local post office. There are other possibilities of business for post offices. All these issues are still being examined. What the project did was to raise in a practical and sensible way questions which needed to be raised and aired, about the efficiency of the way things are done now.

At a much less controversial level, the Inland Revenue project began by looking into ways in which a form, the P.45 form, and the handling of that form could be improved. The project recommended simplifications to the alternative procedures which will make them less cumbersome and expensive and, by the simple device of increasing the length of time allowed for a P.45 to be returned, substantially reduce the number of occasions on which the alternative procedure has to be used anyway.

These two examples may help to illustrate the range of the functional scrutinies. There were many others and departmental Ministers are already announcing results from their first round of projects. The present round of scrutinies includes such subjects as the administration of the Regional Development Grant Scheme; the procedures for delivering unemployment and supplementary benefit to the unemployed, the regional organisation of Central DOE and the Department of Transport, documentation and inspection of horticultural produce by the Ministry of Agriculture and so on. Once again the range is wide.

Follow-up work

But of course the number of scrutinies of particular activities that can be mounted at any one time is bound to be limited. An important part of the programme must therefore be following up the lessons to be

learnt from individual projects more widely across the range of government activities. In this way the projects can be used as the seedcorn for the more general and sustained campaign to achieve efficiency and cut out unnecessary activity. The CSD is fully engaged on this work and we attach considerable importance to it. It is taking several forms.

We are following through with the department concerned the application of lessons from a particular project to other parts of the department's work. For example, we are assisting the Customs and Excise to carry out a rationalisation of their outfield organisation as a direct result of the Rayner project which looked at one part of this in London.

We shall be assisting directly with the implementation of the results of some projects through the involvement of CSD Staff Inspectors or Management Services staff.

The projects have also suggested wider themes which need to be pursued with several departments at once. The Welsh Office projects, for example, suggested that there was scope for reduced supervision and advice from the department to local authorities in roads and school building. This is clearly something which needs to be followed through into other parallel types of work in all the various government departments with interests in local authority matters: Environment, Transport, Education, Health and, of course, the Scottish Office in relation to Scottish local authorities.

Some of the projects have drawn attention to the way services can develop over the years, from perhaps quite small beginnings to becoming rather large and expensive operations. If one stands back and looks at these, the question arises whether Government should be providing services on this scale or whether it is thereby pre-empting activity which might be better done in the private sector, or at least should be charged for in order to test the real demand for the service. This kind of issue arose, for example, for the Department of Trade's project on export services to industry trade fairs, trade missions and the like. We are reviewing other areas of government where similar issues may arise.

Wider possibilities

Then again some projects may point to a need to review a whole area of government activity which is conducted in a number of departments. The Trade and Industry project on their statistical services was one such. As a result the Minister of State, CSD, has now arranged for a government-wide review of statistical services. Sir Derek Rayner is overseeing this and the review is being co-ordinated for him by staff from the CSD and the Central Statistical Office.

As the programme of scrutinies goes forward, there will obviously be a growing base of detailed examinations by departments on which to build. I very much hope that in this way we shall, quite rapidly, be

able to construct a substantial, collective momentum towards improved efficiency throughout the Service. The process is already well begun.

For example, we are already taking an initiative to assist departments to follow through the consequences for manpower savings of the present Government's policy of reducing intervention in industry. This could be important in helping to achieve the manpower targets which government has set for 1984. It will look particularly at the staffs in various departments whose job is to act as intermediaries between specific industries, which they sponsor, and other government departments whose work affects those industries.

Scope for improving systems and programmes

I said earlier that I thought this work would help to bring together and sharpen the more traditional aspects of our and government departments' work on administrative efficiency and economy.

This will, I suspect, prove also true of the organisational and systems side of CSD's activities. I have not mentioned this so far but of course the development of better management systems for controlling and planning the use of money and manpower has always been an important part of our work. Here too, the knowledge gained from the scrutinies should help to broaden the future base of this work and to provide the clues for where the available resources can be most profitably deployed.

In the first instance we are supporting Sir Derek Rayner in setting up new arrangements to ensure that departments individually, and the Government collectively, have much better information about their costs of administration. The aim is to enable each Department's Ministers and senior management to exercise a more effective control over the whole of their Department's costs, and to be able to separate out and concentrate on particular units or programmes where costs are rising faster than they should or perhaps not falling as fast as they should.

Other work going on in this field is concerned, for instance, with helping departments to develop techniques for better programme management in particular areas, for example, the PSA's London Estate, the Department of Transport's trunk road programme, legal aid expenditure and so on.

The contribution of accountants

What part does the accountancy profession itself have to play in these activities? Too small a part up to now, I suggest. As I have said before, the Civil Service has too few accountants. It has only 1,000 out of the total membership of the four main bodies of approximately 120,000. We are, however, attempting to put this right by training selected members of our own staff up to full professional level and we currently

have some 470 trainees across the Service including 200 training for your own Institute. Most of these 200 are in Exchequer and Audit Department where there is, as you probably know, much emphasis placed on value for money auditing.

There is a small number of qualified accountants in the Management and Organisation side of CSD itself. These officers are involved with the introduction of management accounting and better financial control systems in departments. They have also been involved with aiding Sir Derek Rayner's efforts to encourage departments to collect improved information in respect of their administrative costs. Additionally they are encouraging the assisting departments to improve the quality of their internal audit.

The search for results

I am conscious that I have not put figures of savings to much of what I have described of our activities in the field of efficiency. In part this is because it is still early days to be putting precise figures on the new initiatives. It is only as action is actually taken to put to good effect the results of all the work that is being done, that savings will be achieved. We are all very much aware of this and that no amount of interesting studies and reviews will be of any use if, at the end of the day, they do not produce results.

For we are seriously looking for results. Some people think that we feel that the drive to reduce numbers and improve efficiency is an attack on the Civil Service. We do not. Most civil servants want to be efficient and look forward to the challenge of working in a leaner and fitter organisation. Naturally there are a few worries—can enough ways of improving efficiency be found, so that numbers can be reduced without depressing levels of service? Can the reductions be made by retirements and resignations or will there have to be some redundancies? But most of us see these problems as challenges.

To sum up

The conventional caricature of the civil servant presents him as impassively resistant to change. The truth is, of course, that we are obliged to be experts at adapting to change. We are adapting to the present substantial change in direction with vigour; most of us with constructive energy and enthusiasm.

Where we do feel under attack is when our loyalty and public spirit is ignorantly doubted; when it is said that we shall pay lip service to the need for greater efficiency but secretly and selfishly resist it. This is a calumny. We do not mind fair criticism but unfair attacks on the Civil Service have grown to such proportions that they are having a worrying effect on morale.

But of course efficiency is not quite like Civil Service manpower or the size of the Public Sector Borrowing Requirement. You cannot say

at any one point in time: 'There now, I have done this or that. I have got down my costs to such and such. I am now efficient.' Efficiency is very much a moving target which has to be continuously pursued by all departments in all their activities. Nor can it be wholly exempt from political change. Some activities will be regarded as superfluous or inadequately cost-effective today, which in other times or under other political circumstances may seem indispensable. There are very few simple profit and loss criteria in Government.

I am convinced that we must strive all the time to give Ministers the option of flexibility. There is a danger that what is there is considered to be unchangeable because it is there. It is producing some tangible benefits, it can only be changed with difficulty and possibly controversy. I very much hope that the new weight being given in government to efficiency and the new initiatives which are being taken will help the service to become more flexible and more responsive, and thus more able to fulfil the changing requirements of modern government. This is not, of course, the only goal. Achieving value for money in whatever we do for the Government is equally important. But I strongly suspect that achieving value for money and achieving flexibility and responsiveness in the adaptation of existing work to changing circumstances are very closely related, and that, taken together, they are as close as one can come to defining efficiency in government.

The Management of the Driver and Vehicle Licensing Centre

J A Fowles, Department of Transport

Alan Fowles is the Director of the Driver and Vehicle Licensing Centre. This is the first of what it is hoped will be a number of articles about the management of large department units.—*Editor.*

Introduction

The main functions of the Driver and Vehicle Licensing Centre (DVLC) and its local offices are:

- to maintain an up-to-date record of drivers and to issue them with licences as appropriate (currently the Centre has on its computer files about 30m individual driver records);
- to maintain an up-to-date record of vehicles and their keepers (details of about 24m vehicles are recorded on the computer files); and
- to collect vehicle excise duty, issuing licences as displayable receipts.

Outside the Department of Transport the records are primarily of value to law enforcement agencies. But car manufacturers are increasingly using DVLC vehicle records for defect recall campaigns.

DVLC issues about 6m driving licences a year and handles a further 3m communications about driving licences (notifications of disqualification, endorsements, etc). All driver licence matters are handled centrally at Swansea.

DVLC at Swansea also issues vehicle excise licence reminder forms. This is a comparatively recent innovation associated with centralisation. Between 1·4m and 2·1m a month are sent out. Registration documents are also issued from Swansea. But licences are obtained not from Swansea but either from one of the Department's 81 local vehicle licensing offices (LVLOs) or from post offices. About 31m licences are issued every year. This year the expected revenue is about £1,400m. About 10m new or changed registration documents are issued annually. There are about 4·3m other transactions involving vehicles.

These are the main functions. In addition DVLC is responsible for elements of law enforcement. It has, for example, a staff of nearly 750 engaged in handling reported cases of evasion of payment of Vehicle

Excise Duty (VED). It has 250 staff (including doctors) engaged in medical assessment and enforcement work in connection with driver licensing.

To give an idea of the daily load, about 250,000 applications, etc reach DVLC every day. This is 50 per cent of post in Swansea and over 20 per cent of the postal business in Wales. As at 1 April 1980, DVLC had 6,677 staff of whom 2,251 were in the local offices.

The organisation of DVLC

The DVLC organisation is principally divided into three divisions. The first handles finance and general policy work on both the driver and vehicle licensing sides. But it also controls the local office network and deals with the enforcement effort and with accounts. The second is an operational division, covering all transactions handled at Swansea. It has a considerable clerical unit, as well as a large computer unit (three ICL System 4 batch processing computers with a 2960 computer about to enter service). It also handles the planning for the replacement of the computers currently scheduled for 1984. A third division handles personnel management matters and training for most of the staff in Swansea and the local offices. It also has an office services branch. In addition there are two separate professional units, a medical advisory branch and a legal branch.

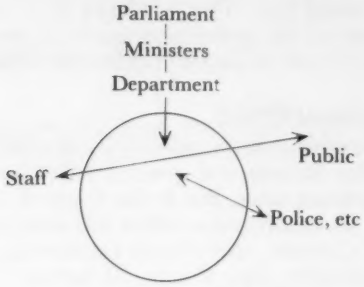
The Director DVLC reports to an Under Secretary in London who has a number of other divisions reporting to him as well. These handle longer-term policy matters on the vehicle and driver sides; but also have responsibility for the driver test organisation and the vehicle inspection organisation within the Department of Transport. DVLC has its own vote and a large measure of delegated establishment functions.

The DVLC organisation outlined above is essentially that set up in the early 1970s to take on records and functions from the old pattern of offices run by the local authorities. As will be seen, it divides in the traditional civil service manner between an executive or operational division, a policy division (though this division also has responsibility for local offices—largely because if traditional logic had been followed the load on the head of the operations division would have been too great) and a services division.

But there is one exception which is worth noting. Finance and complementing are covered by the secretarial branch which also handles management information. The reason is that expenditure in the vote largely consists of the salaries of DVLC staff or its equivalent (Post Office); it seemed therefore sensible to put the two together so that resource allocation could be properly considered. This branch in the main works to the Director and the heads of division in Swansea in their role as the corporate management unit for DVLC (including its local offices). For administrative purposes it is located within the finance and general division.

Relations with others

It seems worth while also to set down the pattern of relationships which DVLC has and which its management has to attempt to satisfy:



Management tasks

In addition to maintaining the flow of work to satisfy the Centre's ongoing tasks whilst attempting to increase its efficiency DVLC management has two other major tasks immediately before it:

- to replace the current System 4 mainframe computers and their peripheral equipment by 1984; and
- to achieve by 1982/3 the changes, the announcement of which accompanied the Minister of Transport's statement in December 1979 that the previous Administration's decision to abolish VED had been reversed. The most important of these changes is to transfer the bulk of relicensing work to the Post Office, which will involve a reduction of over 1,000 staff, mainly in local offices, and a saving of about £7m a year.

Constraints on management

Any discussion of management issues must take account of constraints on the particular level of management about which one is talking. DVLC has the same constraints as other organisations within government which limit its own power to act. It cannot vary the work it does since it has to meet the statutory obligations laid on the Minister of Transport. Its operations are open to public and parliamentary criticism in a way that those of few private concerns are. It is part of a Department and is subject to competition for scarce resources; even with a vote of its own it does not command the purse-strings for many of its requirements, and in some circumstances it is unable to follow lines of action it would regard as appropriate to its tasks because of broader and/or different considerations. Matters like this are often aired about governmental organisations—as indeed they are about industrial organisations where individual managers are not

so free from similar constraints as those who manage major executive organs of government sometimes suppose. The point is that such constraints bear on the efficiency and well-being of an organisation whether in the public or private sector.

Secondly, partly because of location but also because of the nature of the work DVLC is largely separate from the rest of the Department. The organisational links are there but to function effectively they depend on personal relations and on the trust engendered by them. So they do in departmental organisations solely within Whitehall. But the knowledge of people and their interests which comes by way of regular meetings, formal and informal, within a single building is more difficult to acquire 200 miles apart. Regular face-to-face meetings are of the essence; time spent in travelling is a necessary on-cost which is rarely acknowledged; but the interface between local management and central policy areas is difficult to get right, especially when change is about, unless there is a proper awareness of policy requirements, etc on the one hand and managerial problems on the other and unless there is a proper articulation between the two. The aim of a minor clause in a Finance Bill can take considerable time to achieve on the ground.

Thirdly, the efficiency of other organisations has a bearing on the 'perceived' efficiency of DVLC. For example, to a member of the public who makes an application to DVLC for a licence, the time DVLC takes is that between when he makes his application and when he gets his licence. Our target is to take ten working days or less to process 95 per cent of our transactions. 'Working days' exclude weekends. Post can also take four to five days at either end. So the customer sees a performance of four weeks.

When such organisations do have a significant bearing on efficiency then one needs special liaison arrangements. Those we have with the Post Office have been particularly effective. In the last year or so we have altered our own internal timetables to make sure that the output is delivered to the post office in Swansea as early as possible, and they themselves have modified their arrangements in Swansea and the way in which our very large volumes of mail are distributed round the country— in some cases by special delivery.

Finally, looked at from outside, an organisation like DVLC might be accused of not being responsive to change. Those who make this sort of accusation do not know the history of DVLC over the last few years nor appreciate the changes which have to be handled over the next few years. The cause of the criticism is very often an inability to realise that the timescale for change in an organisation like DVLC with statutory functions on the one hand and with complex ADP systems changes to make on the other is probably longer than people without experience in industry or executive organisations can appreciate. Even a period of five years, the life-time of a single Parliament and until recently the period over which public expenditure surveys were conducted, is not

long enough to cover the time required to make some of the changes demanded of organisations like DVLC. Time and complexity are limitations joined by resource implications, for example, the availability of skilled and experienced staff, which retard change.

Improvements in efficiency

So far as the public are concerned, we appear to be more efficient (or less inefficient) to judge by the considerably fewer letters of complaint received nowadays. Our enquiry units now deal mainly with general questions about licensing, etc, though obviously people do telephone about a particular licence application and we still, almost inevitably given the number of cases we deal with, make mistakes for which we have to apologise. But in general well over 90 per cent of transactions take ten days or less to process.

So far as the public purse is concerned, we are also more efficient. In October 1977 we employed just over 7,600 staff; in March this year the figure was 1,000 less. Staff costs have risen only by about 15 per cent over three years despite inflation. In the first three months of this year overall expenditure was £13·4m. This is exactly the same as in the first three months of 1979 despite inflation and despite the fact that 'business' is growing by about 3 per cent a year. This steady rise in efficiency arises from the increased maturity and experience of individual members of the staff. It is also due to the continuing review of procedures to eliminate problems.

There are two major problems, however, which are difficult to solve. The first concerns the pattern of work flowing in from the public, etc. The second relates to the flowline nature of the operation.

Pattern of work

One of the real problems is the variation in the intake of work. For example, VED is payable at the beginning of the month. First registrations generally take place in the last week of a month or immediately the next month begins. Renewals of VED mainly take place in the first two weeks of a month. A typical monthly pattern of work as received at DVLC is shown in figure 1 on page 189. To complicate matters further, there is an annual pattern which is illustrated in figure 2 (page 190). The pattern of work shown in these diagrams is the same at LVLOs and post offices though peaks and troughs take place a day or so earlier. Similarly on the driver licensing side there is a pattern or receipt which fluctuates over the week and over the year (see figure 3 on page 191).

In addition to dealing with these incoming peaks we have to absorb two other tasks. On the vehicles side we issue VED reminders every month. The aim is to get reminders to keepers of vehicles 14 days before existing licences expire. For the Post Office to distribute these we have to start producing them six weeks before renewal is due. On

the driver side there is a small, but more even, reminder programme for short-term licences.

We meet these fluctuations in workload primarily in two ways. First we allow work to queue so that at certain times in the month or in the year it takes us a little longer than normal to get the work out. To staff the peaks would be uneconomic and frustrating for staff since many of them would have little or nothing to do at particular times of the year or month. Secondly we have met high annual peaks partly by allowing recruitment in the operational areas (particularly where skill training is required) in advance of the peak and then letting natural wastage across DVLC, along with any necessary redeployment, meet the reduced requirement when the peak is over; but also by recruiting casual help to match capacity to the workload.

Figure 1. Vehicles—monthly pattern of mail receipts, October 1979

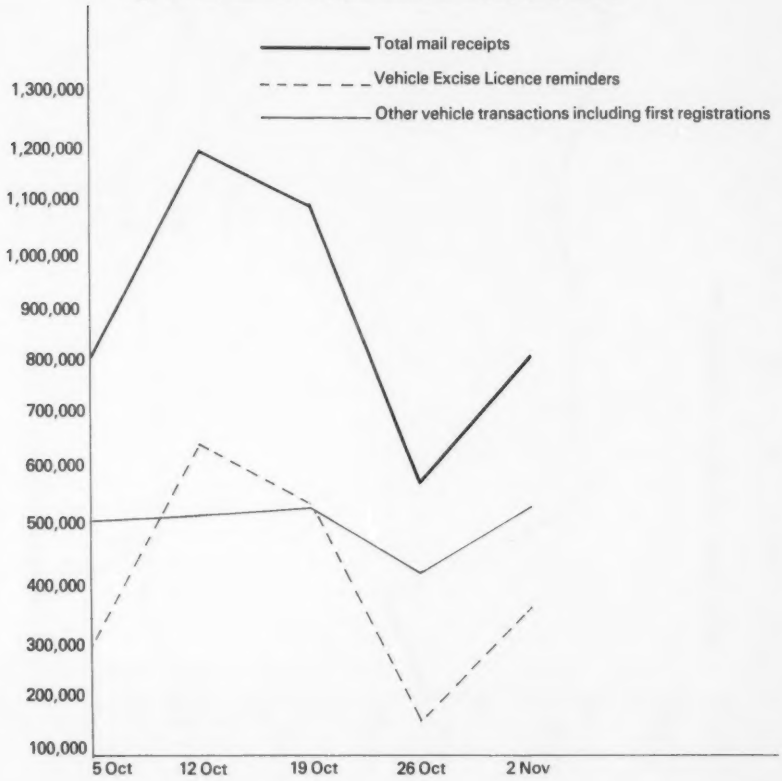


Figure 2. Vehicles—annual pattern of mail receipts, 1979

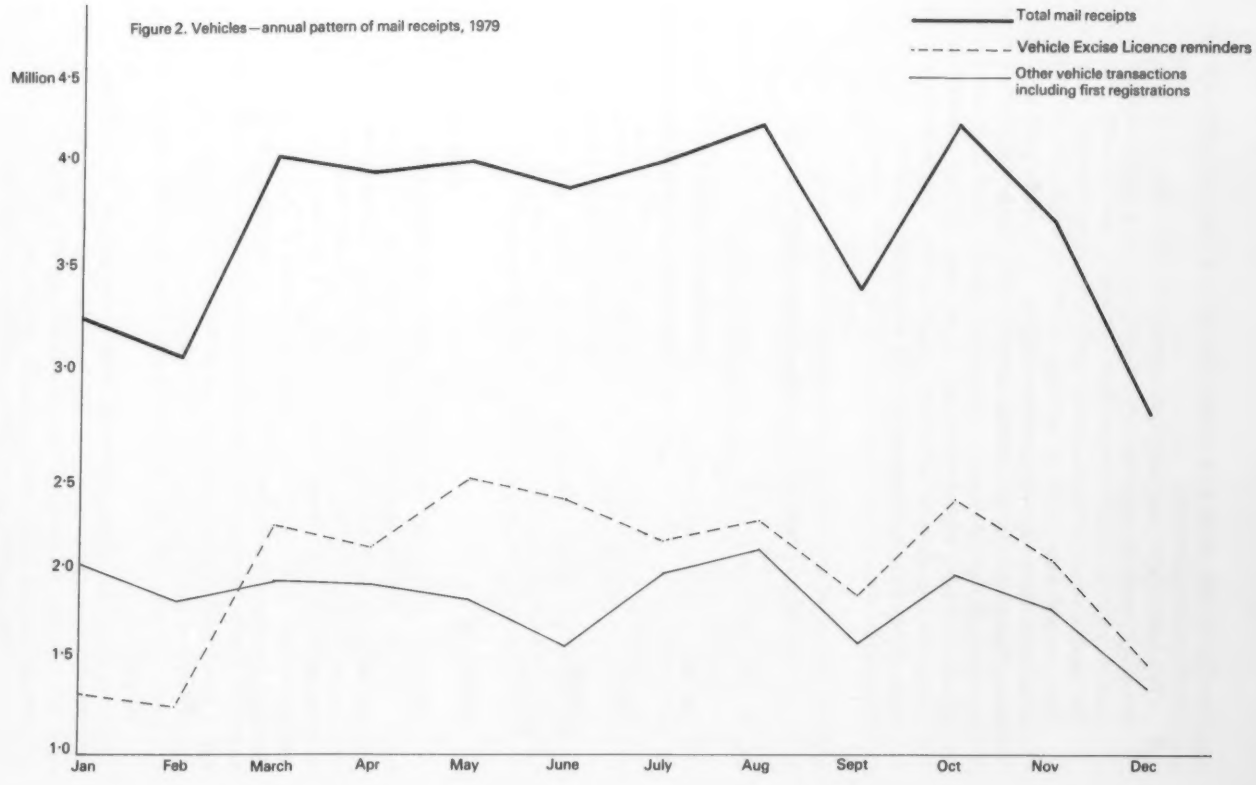
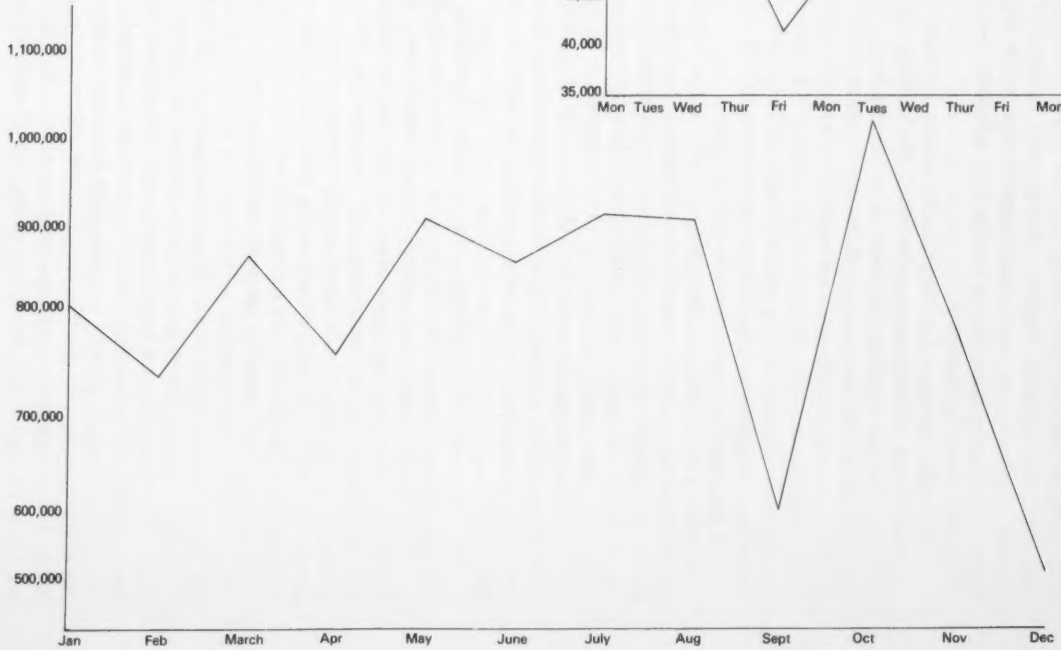
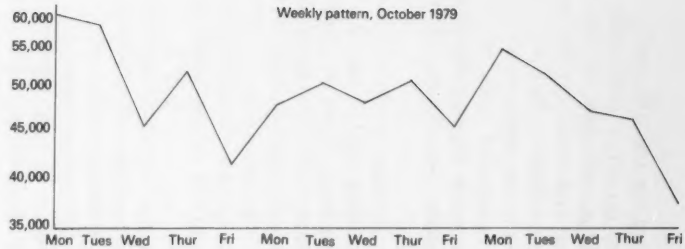


Figure 3. Drivers—annual pattern of mail receipts, 1979





The workflow

There are particular problems which arise from the way the work was laid out when the Centre was originally set up. It is essentially a flowline process based on repetition by individuals of relatively simple tasks. Applications are initially checked, edited and coded on the basis of what is on the forms. After batching and microfilming they are then translated by the data processing staff for input to the computers where they are run against further checks and compared with existing records. Licences, etc, are issued when comparisons are correct. But if there is a discrepancy this is referred to another clerical area for the discrepancies to be resolved.

The flowline process has two disadvantages. It takes up time as work is passed from individual to individual, each doing a different task. It requires double handling if there is a discrepancy, however minor. And, of particular importance if things go wrong, until details of any application are passed to the computer we cannot trace it (there is no way in which we can afford to open another file on every one of the 250,000 pieces of paper we receive daily). Even when the information is on the computer it can take a day or two to dig out an individual record because the computers are not on-line.

We are now looking at the time and resources absorbed by moving paper from one person to another and asking ourselves what may seem to be the simple question, whether a single member of the staff or, more likely, a small team could not take on various tasks and so eliminate time taken in transit. The importance of carrying on this work can be gauged from the fact that a study of workflow steps in one area showed that a considerable number consisted either of movement or waiting periods rather than action in relation to the primary document.

But the major problem, the double handling if there are discrepancies, cannot be dealt with unless we replace our batch processing computers by direct access machines. Then the clerk initially processing the application can do the record checks. Only by having direct access machines will we also be able to reduce the problem of tracing individual applications earlier. The earlier we check the record the earlier will we be able to input the information on the application. But at least nowadays we do have, through microfiche, a method which enables us very largely to answer enquiries about recent applications against which licences have been issued. Its use in the inquiry units has reduced the workload there significantly.

In addition, we have devoted some attention to what the public has to do. For example, we have considerably simplified the VED renewal form used if the reminder has not arrived or is inapplicable. Its make-up and the way it should be processed involved many of the staff. In the end it also involved a 'live' trial in one part of the country. Looking back the programme was long and involved. But it achieved its objectives; we had a simpler form, a simpler procedure—and the public

had no problems with it. This last point is critically important. In the public service we sometimes forget that there is a public 'customer' (in DVLC's case he buys a licence) whom we have to satisfy and that we ought, subject to the legal requirements, to make it our duty to satisfy him.

Development of the organisation

The present organisation derives entirely from that devised to take on driver and vehicle licensing from nearly 200 local authorities over a period of four years or so. It is right, now we are well out of that process, to consider whether the organisation is the best to handle its future tasks, particularly since the replacement of the main frame computers could modify the way applications are handled. There are a wide range of possibilities. The present organisation has advantages in offering, for example, flexibility in the deployment of staff. At the other extreme a 'product' oriented organisation, perhaps positively linking policy with operational management, could be more accountable and possibly allow responsibility to be delegated to lower levels. We have therefore had an internal study team to examine the possibilities against the practical experience of the past few years. This means, for example, that it has looked at the links between branches to see if these could be facilitated by different organisation patterns. And we have a small team from the Civil Service Department (CSD) also examining the possibilities as an input to our own thinking.

Secondly, we are asking ourselves whether the information we get, particularly at senior management level, is the best we can have to manage the operation. What we have was designed before the Centre went 'live', although it has been supplemented where it was found wanting. It concentrates on throughput and makes it easy to check how we are doing against the overall performance target I have mentioned. Obviously one is concerned with meeting that target. But the management information system does not directly identify the problems with the five per cent or so which we do not process in ten days and so help suggest how to attack it. Nor do we know sufficiently well how to project information forward so that one can initiate anticipatory action. We rely very much on experience and intuition.

Moreover, after the operation went 'live' we gradually developed a secondary information system about financial and manpower matters within the Secretariat. We need to consider how to develop this further to fit it into operation reporting and to see how we might use it as an aid in identifying and solving problems and in making management more accountable. This could involve a review of performance indicators and more use of targets, budgets and the like. Again CSD are providing help to our thinking.

Communication and management style

In this section I do not want to touch on the practical problems of communication though these are difficult enough (how, for example, does one tell staff in the north of Scotland about an announcement in the House of Commons which affects their livelihood before it is on the radio?). I am more concerned about the production of an organic style which requires individual managers to communicate with their staff and vice versa in a meaningful and productive way.

One of the major problems during the conversion period to which I have referred was that newly recruited and therefore inexperienced staff were having to be controlled in a major change situation by managers many of whom had never previously had such responsibility in an executive organisation. This was characterised in solution by two things. First, we had 'do it by numbers' instructions. Secondly, decisions were taken higher up the tree than more mature organisations should warrant.

As we have matured we have begun to move in three directions. First, at top level, we are moving towards corporate management. There is a Management Committee which meets monthly and which not only considers the management information reports but has regular reports by heads of sub-divisions in the areas for which they are responsible. Corporate management can help push decisions down the line because decisions are made in the context of shared knowledge and experience.

Secondly, we have encouraged—as the article on the Job Satisfaction Study by Miss Wood in the August 1979 issue of this journal indicates—the involvement of junior management and their staff in identifying problems, in analysing them and in producing solutions which improve the way they work and which take account of the needs of other parts of the organisation. We have been enabled to do this because, *inter alia,* of the high calibre of staff we have been able to recruit in Swansea and the way staff have matured. There are obvious difficulties about this sort of approach. Wherever it starts, there is a point in the management chain which for the time being may be left unsure about its particular role. But it is very evident in the work we have done that the approach is producing dividends not only for the staff but also for management. It is also producing a proper relationship between the two since both are involved in getting the work done properly and effectively and because both are engaged in meaningful communication.

Thirdly, we are beginning to talk constructively with our unions about our affairs. Consultation is often difficult in the Civil Service because of the priorities given to Ministerial and Parliamentary prerogatives. But when we have been able to take part in working parties or steering groups with the unions, they have usually worked well because the views of both sides have been fully aired and explored. It is interesting that often the concerns of management are on

examination the major concerns of staff. To quote one example, in modifying the method of handling incoming post the management in the branch concerned was worried about the security of incoming money. But the staff were equally concerned (incoming cash is their responsibility). When asked to look at this special problem they devised a very sensible system which satisfied both their concerns and management requirements.

Accountability

DVLC is not a separate accountable unit. Nor has it full control over the requirements it needs to function efficiently. As I have said, it is subject to the normal restraints of being part of the Department. Its bids for staff have to be assessed against bids for staff to serve other functions within the Department and so on. Its vote, like others, now bears the cost of computer requirements and of stationery, etc, but there are other matters which can affect the functioning of the organisation which are not within its control. It suffers from cuts made in the funds available to service organisations like the Property Services Agency and there is a very genuine question whether it should not, and whether other governmental organisations should not, now bear the cost of such services on its vote so that priorities can be assessed against the functions it is carrying out. To decide whether to do work in one region rather than another is a decision which the management of an executive organisation should be able to make. Similarly, it ought to be able to choose between expenditure on one item rather than another. It would mean that it would be behaving as management does in the private sector and be as answerable for its judgement.

If steps could be taken to meet this requirement and to give individual managers in the line more responsibility, much could be achieved. Just as some of the work done at DVLC shows that those at very junior level have a contribution to make to thinking about how to meet objectives and how their energies can be released, rather than restrained, to help achieve them, so managers need to be given the same sort of freedom (and responsibility). Only if they are, will we get the sort of management executive organisations require—and perhaps the Civil Service, most of which is not in Whitehall, will gain as well.

Microelectronics—an overview

Professor F J M Laver, CBE

Professor Murray Laver was until recently Visiting Professor, Computer Laboratory, University of Newcastle upon Tyne; and a member of the National Research Development Corporation. He is now retired, but available as a computer consultant. This article is based on a talk given at the Civil Service College to a seminar for Under Secretaries—*Editor.*

About 25 years ago, the same fuss was made about the first computers as is being made today about microelectronics. There was then much talk about super-human, super-fast electronic brains bursting upon the world with disastrous consequences for humanity in general and employment in particular.

Those who knew something about computers at that time did not believe these predictions (aware as they were of the limitations of the technology), and deplored the sensational over-sell of what computers were capable of achieving. In retrospect, perhaps there was too much awareness of the limitations, as few of those who were closely involved with the early computers foresaw the speed and extent of their technical development and application. Nor did they foresee the convergence of computing with telecommunications which has produced large and powerful systems capable not just of mathematical calculation, but of handling most kinds of information. These large-scale information-processing systems have a potential much greater than either computing or telecommunications in isolation.

Whether all today's fuss is justified, and whether or not we are at a point of major change, can be examined under the following headings:

—Technology

—Economics

—Performance

—Applications

—Policy considerations

—Social consequences

But first some problems of terminology.

Within the whole area of microelectronics, ie the application of miniaturised electronics (shown in Figure 1 as lying within the outside line), there are several sub-areas. One such is 'microcomputers' within which again lies 'microprocessors'.

The terms 'microcomputer' and 'microprocessor' are sometimes used interchangeably, but refer to different things. The microprocessor is the part of a microcomputer which performs the

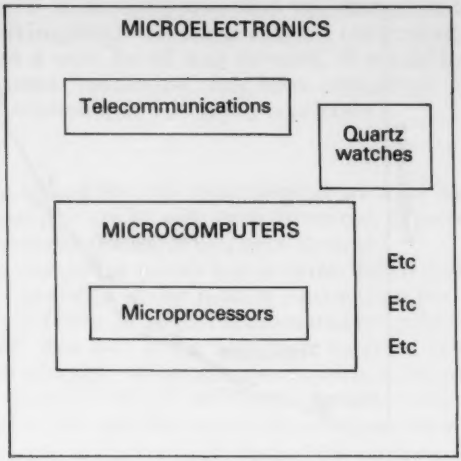


Figure 1

actual calculations (or other data processes), stores a little of the data and operates the program. The microcomputer has additional parts—which can input and output data, or store larger amounts of data on such devices as magnetic tapes and discs.

Technology

The superseding of the thermionic valve (a rather unreliable device which gave off a great deal of heat, and which depended for its operation on electrons moving through a vacuum) by the transistor (which is much smaller, gives off little heat and in which the electrons move between atoms in a very pure crystal) was a truly revolutionary step in electronics. Since the transistor we have seen an 'evolutionary' process, now at the microchip stage, although admittedly the evolution has been very rapid.

When considering 'evolution' and 'revolution' in relation to the performance of electronic components, it is misleading to plot the 'performance' of electronic components or systems against 'time' on ordinary (linear) graph paper because the resultant steeply-rising curve (Figure 2) gives the impression that there is always a breakthrough ahead.

It is more realistic to make the 'performance' axis logarithmic in order to show the *ratio* of performances, and thus the percentage rate of improvement. When this is done the curve becomes a straight line and the various technologies just come up to the straight line and then die away. What may look at first glance like 'revolution' (in terms of performance) is really just rapid evolution; true revolution would be

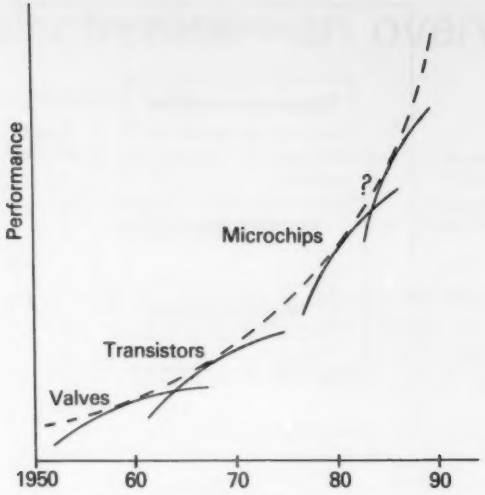


Figure 2

something which, when plotted, would appear to jump off the straight line (see the dotted line on the graph at Figure 3).

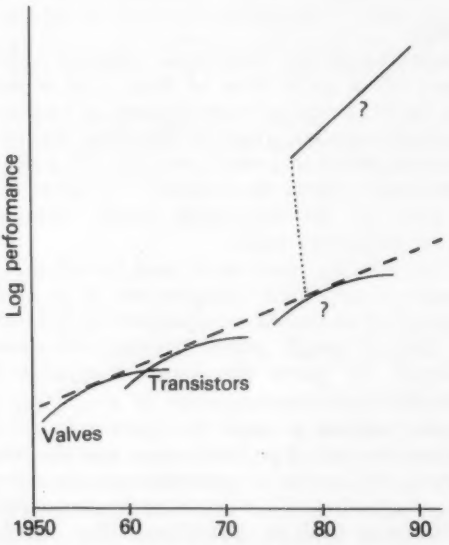


Figure 3

To sum up, it is certainly true that the change in technology has been rapid and important *but* it represents a continuing *evolution,* not a revolution, not a once-for-all leap forward. It would be dangerous to assume that some 'revolution' has been completed, because in fact evolution will continue, and probably accelerate.

Economics

Even if it is accepted that the technological advance has been smooth and evolutionary it could still have triggered a revolution if some significant economic threshold had been crossed.

The cost of computing power has certainly fallen dramatically; thus a computing capability of one million instructions per second in 1960 would have cost £10m; in 1980 it is estimated it would cost £200 and in 1990 only £20. Not only is the very large ratio between these figures important, the absolute values are also important because there are far more people around with £20 in their pockets that with £10m, and this is bound to affect the way the use of computing power will spread.

Also significant is the fact that since 1960 we have had rapid wage inflation and this, set against the cost deflation on the hardware side of computing, has tipped the economic balance more and more strongly in favour of the substitution of capital for labour. This has been the classic route to high productivity, for virtually all productivity gains in industry have been achieved by replacing labour with capital equipment employing new technologies of higher performance.

It should not be assumed that the only outcome of falling costs in computing would be the production of large numbers of microcomputers. Falling costs will also affect large computer systems, thus:

—Production is getting cheaper because the production of the microelectronic components themselves is highly automated.

—Maintenance is getting cheaper because the components are very much more reliable and because capital costs are low enough for parts to be thrown away and replaced rather than repaired.

—Installation costs are falling because the small computers—being more robust and reliable—no longer need to be pampered with air-conditioning and the like.

—Operation costs are coming down because all the other costs are coming down, and because computing power is now available in very small helpings.

The availability of 'very small helpings' is of great importance because up to now if one wanted a small amount of computing power one had to have a rather thin slice of a very large machine (the 'salami' technique). This is inconvenient because the machine is never where you are; it is also costly because you have to go to the machine, or send your work to it, or incur the cost of the Post Office lines connecting you to it. It is also extremely inefficient because the machine has to spend

time cutting itself up into slices so that a number of users could have a share.

We end with a kind of equation:

Wages Costs Up + Computing Costs Down + Small Units Available
= Growing Incentive to Substitute Computers for Labour.

Although this equation is broadly true there are two offsetting factors. The first is a hardware one—computers are not made entirely from microelectronic components. The non-microelectronic parts include the backing store or database (on which large amounts of information are stored) and local and remote input devices. These components (shown as lying outside the dotted line in Figure 4) include discs, keyboards, printers, VDUs, Post Office lines, etc, and are not fully susceptible to the reduction in costs enjoyed by the microelectronic items. Their evolution has been much less rapid.

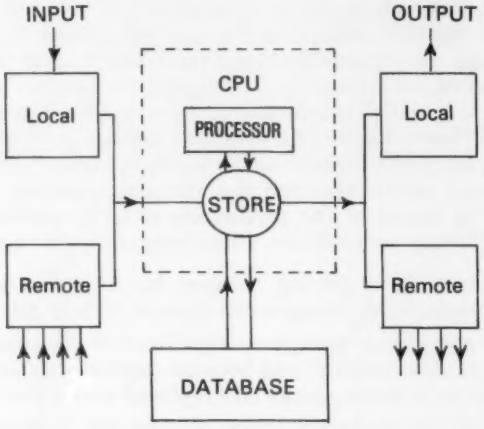


Figure 4

The second offsetting factor is a software one—systems design and programming. This has not evolved much at all. Systems design and programming costs are no less for microcomputers than for big computers. Programming is not an easy task (essentially, it is problem solving), and the fact that the machines the programs are being written for are small ones does not make it any easier; indeed because a small machine has limitations its programming may actually be more difficult. Programming costs are almost entirely labour costs; these have been rising rapidly, and have not been offset by any substantial improvements in productivity. Computer scientists have not yet

produced a sound theoretical basis on which to build advances in programming techniques comparable to those we have seen in hardware.

To summarise, systems design and programming costs:

—are no less for microcomputers,

—are principally labour costs.

—There has been little productivity improvement,

—and therefore the costs are *high and rising.*

It would be possible to offset the high costs of software by seeking economies of scale, for when programming costs are going to be high, it makes sense to spread them over as many applications as possible. This implies identifying common-user applications and producing standardised programs. The standardisation of programs, however, has the disadvantage that it removes some of the flexibility which computers have traditionally possessed. Similarly for hardware; to produce a single microcomputer would cost £½m. It is only when they are produced in tens of thousands that the costs become economically attractive.

Performance

Microcomputers have both advantages and defects. One defect is that some of them have a rather low *precision.* This does not mean that microcomputers make mistakes, but simply that when it is necessary to represent a number very precisely the number of digits available to do so may not be sufficient. Another defect is that they do not operate as fast as some larger computers, which can exclude them from some applications.

Again, they often have rather small 'stores'. Rapid obsolescence is another defect. The microcomputer art is developing so rapidly that there is no sign of international standards being produced, and there is always the risk of ending up with an obsolete model.

The principal merits of microcomputers are their small size and low power consumption; they are therefore highly portable. They are also very reliable. They are reliable partly because their small size makes them robust; big things are floppy and when you shake them bits fall off. The microcomputer cannot be shaken hard enough or fast enough for this to happen. Their reliability means that it is possible to 'fit and forget' them, and as a result they are likely to find their way into products which at first glance would seem unlikely candidates to be affected by microelectronics, and which their users may be wholly unaware contain a computer.

The 'performance' points of microcomputers may be summarised as:

Defects

—low precision
—slower
—small store
—rapid obsolescence

} relative to large computers

Merits

—small size
—low power consumption

} portability

—reliable
—robust

} fit and forget

Applications

Small, cheap and reliable units of hardware associated with high software costs result in mass applications. Indeed, the only way of absorbing the production capacity *already installed* for the manufacture of silicon chips is to seek out mass-market applications, which are most likely to be found in automatic devices for production control (including instruments and tools), in text handling (by means of the automated typewriter, also called the 'word processor'), in telecommunication developments like 'Prestel' and, above all, in domestic applications—including leisure activities including entertainment and motoring.

Policy considerations

It is important to consider what British policy might be in relation to:

hardware;
software;
applications and products.

In particular, should the policy be 'positive' (do something) or 'negative' (do nothing)?

For hardware, the principal question is 'should we have a silicon chip factory in Britain?' (It has been decided that we should.) The arguments in favour are:

- It is a key industry, and one of strategic importance.
- It is proof of UK competence ('we can do it too').
- We might in fact produce better chips than are available elsewhere.
- 'Second-sourcing' is a prudent policy in case we quarrel with our suppliers, or they have production problems or industrial troubles.
- Design liaison (between those who make the chips and those who make the things that will use the chips) is easier and closer.

- Balance of payments advantages.

The arguments against are:

- Because the chips are very cheap (compared with the things they control) it might not make much difference to the cost of British products using them whether we make them ourselves or buy them from someone else.
- Again, because they are cheap their 'added-value' is low, and this limits both the profit that can be earned and the employment provided.
- The UK home market may be too small to support a chip factory of the economically 'viable' size.
- International competition in this area is particularly fierce and cut-throat.

For software the issues are:

—We have a native talent for producing software.

—Because an unprogrammed chip is worth very little the software element is vital to all applications.

—Software has a highly favourable import/export conversion ratio (we import next to nothing, add brain power and convert the product into a highly-priced export).

In the applications area future products of many kinds will have to incorporate microcomputers to make them 'smart' or they will be 'dead ducks'; and unless British manufacturers make their products 'smart' they will die. To find new and attractive products of the kind that can benefit from the incorporation of microprocessors needs skills which have nothing to do with electronics, but which lie in the areas of marketing and product development where British industry has not been conspicuously successful.

To sum up, there are three different 'competition regimes' in microelectronics which may be characterised as:

Hardware—*War*

Software—*Game*

Applications—*Race*

The 'Hardware' regime is a war because it is an all-out fight to the death involving fierce competition, where God is on the side of the big battalions. The 'Software' regime is a game because cleverness and skill count for more than size, and in operational research terms it is not a 'two person zero sum game' where there always has to be a winner and a loser; it is possible to play this game and achieve a satisfactory result without necessarily coming top of the league. The

'Applications' regime is a race because he who gets there first will win the prize, but British industry has been traditionally rather slow in responding to marketing and product-development challenges.

Social consequences

'Social consequences' usually include economic consequences plus personal consequences plus truly 'social' consequences (ie those affecting the relationships between man and his society). They will largely be the consequences of computing in general—*not* something peculiar to microelectronics or microcomputers.

Among the social consequences may well be an enforced change in our attitudes to work, leisure and education. There is no unalterable reason why we should work eight hours a day, five days a week, 50 weeks of the year for 40 years of our lives; it is we who have organised it this way. Each of these factors could be varied—shorter days, shorter weeks, longer holidays, 'sabbatical' leave, or earlier retirement. Nor is it necessary to assume that the whole of education has to precede the period of work, like some nasty childhood disease which has to be got out of the way quickly. However, it is rather easy to enumerate what *could* be done, and even to urge what *should* be done; what in fact *can* be done must depend on our economic achievement; and what *will* be done will depend also on our political decisions.

Accountancy Services in the Procurement Executive

F C BRABY, Ministry of Defence

Mr Braby is the Principal Director of Accountancy Services, Procurement Executive, Ministry of Defence. His article complements those by Messrs A N Devereux, Principal Director of Patents, and R G Masters, lately Principal Director of Technical Costs, which appeared in the August 1979 and May 1980 issues respectively of this journal.—*Editor.*

The Accountancy Services Division of the Procurement Executive (AS(PE)) has developed to its present form mainly since the outbreak of war in 1939. During the 1914-18 war the Admiralty and the War Office employed small numbers of professional accountants to investigate the books and records of government contractors. These operations were on a small scale and virtually ceased with the end of the war. In the late 1930s the rearmament programme created a need for the services of professional accountants and the Admiralty, War Office and Air Ministry set up their separate accountancy services organisations. The Air Ministry accountants were later merged with those of the Ministry of Aircraft Production and the War Office accountants with those of the Ministry of Supply. In the years after the 1939-45 war various further mergers took place. Finally, in 1972, following the setting up of the Procurement Executive as a result of a report by Sir Derek Rayner of Marks and Spencer Ltd, the separate bodies of investigating accountants in the Admiralty, War Office and Ministry of Aviation were amalgamated and the present organisation of AS(PE) was set up. AS(PE), together with the Principal Directorate of Technical Costs with whom AS(PE) has close working links, comes under the overall control of the Director General of Defence Contracts (DGDC) who is in turn responsible to the Chief of Defence Procurement.

Organisation and strength

At the head of AS(PE) is the Principal Director of Accountancy Services (PDAS) who is supported by three Directors and 10 Assistant Directors. Each Assistant Director has a staff of three or four Chief Accountants and a number of Senior Accountants. There is also a central policy and administration section headed by one of the Assistant Directors. The total current strength of AS(PE) is approximately 180 of whom 140 are professionally qualified accountants and are members of one of the recognised bodies of Professional

Accountants. The Headquarters of AS(PE) is in central London and staff from this office cover work at contractors with premises in London and the South East. There are also seven Regional Offices, located in areas where there are large concentrations of contractors engaged on defence work.

Range of interests

The Procurement Executive places some 40,000 contracts each year with over 4,000 contractors. These contracts range from the purchase of everyday items to the development and supply of the most sophisticated aircraft, guided weapons and electronic equipment, and the contractors with whom they are placed cover the whole range of British industry and can vary in size from the very small business to the internationally famous giants. Many of the contracts are placed as a result of competitive tendering, but well over half the yearly spend is on contracts to which competitive tendering cannot be applied and it is mainly to this area that the work of AS(PE) is directed.

It is the responsibility of the contracts branches attached to the Controllerates of Navy, Army and Air Force to place contracts and to negotiate fair and reasonable prices with the contractors. To assist them in the agreement of prices they are able to call upon the services of the Principal Directorate of Technical Costs (PDTC) for advice on the prime cost elements of the price and on AS(PE) for advice on overhead recovery rates and assessment of profit.

Types of contract

There are two basic types of non-competitive contract, non-risk and risk, with a number of variations in each case. A non-risk or cost-plus contract is normally used for development work where owing to the nature of the work and the state of the art it is not possible to establish a price until the work is complete. A risk, or fixed price, contract is normally used for the production of an item or items where the manufacturing times, materials used and rates of overhead recovery are capable of being estimated to an acceptable degree of accuracy, and where therefore a price based on these estimates can be agreed between the authority and the contractor either before or during production. The overhead element normally represents 50 per cent or more of the total cost of the work and it is the responsibility of AS(PE) to investigate contractors' books and records and agree with them the method of recovery of overheads and the rates at which they will be charged to government work. The overhead rates agreed between AS(PE) and contractors will be used on all government work, whether cost-plus or fixed price. On the cost-plus or non-risk contracts AS(PE) has the additional responsibility of examining the contractor's claim for costs incurred in the performance of the work and recommending to the contract branch a figure of cost on which the price agreed should be based. To carry out these tasks it is necessary for the AS(PE) ac-

countant to have a detailed knowledge and understanding of the contractor's financial, costing and management systems. At the smaller contractors this is achieved by short periodical, usually annual, visits to the contractor's premises when the accountant will use his knowledge of the contractor's systems to confirm his confidence in the contractor's figures and will normally agree the overhead recovery rates to be used for government work. At the larger contractors where multi-million pound contracts which run for a number of years are performed small teams of accountants from AS(PE) are in almost permanent residence, investigating claims and monitoring expenditure.

Working methods

Although it is necessary for the AS(PE) accountant to carry out a certain amount of detailed checking of individual claims it is obviously impracticable for this to be more than a sample test check. The accountant must satisfy himself as to the reliability of the contractor's records by appraising his systems of costing, accounting, budgeting and general management control. The appraisal of contractors' systems is not a once for all exercise but is a continuing function. Systems are live and are continually being changed to suit changing circumstances. The accountant must be aware of the changes and their possible impact on government work. Contractors' systems are of course the subject of audit both by their external professional auditors and by their own internal audit organisation. The review which the AS(PE) accountants carry out has a different emphasis. It is directed towards the pricing of government contracts and this gives the task its own special flavour.

In addition to the agreement of overhead rates with contractors and the investigation of claims on non-risk contracts AS(PE) is also required to examine contractors' post-costing statements under Standard Conditions of Government Contracts No 48 (SC 48). This condition, which is standard on fixed price non-competitive contracts, requires the contractor to provide a statement of the costs of carrying out the contract. The purposes of the condition are to provide the contracting authority with performance data to assist in follow-up pricing and to assess the accuracy of estimating techniques and to establish the profit earned by the contractor on the contract.

The Independent Review Board for Government Contracts

The Independent Review Board for Government Contracts was established on 1st August 1969 by an agreement between the Government and the Confederation of British Industry (CBI), following the inquiries into the Ferranti and Bristol Siddeley Engine cases. The Review Board carry out periodic reviews into the profit formula for non-competitive Government contracts, and publish a report after each review which, *inter alia,* recommends the rates of

profit which should be applied to estimated or actual costs to arrive at agreed prices, and the upper and lower limits of emerging profit shown on the post-coding statements provided by the contractor beyond which references to the Review Board may be made. Different rates of profit are used to price risk and non-risk contracts and the Review Board recommendations express the profit as a percentage of capital employed. In order to convert this figure to a percentage to be added to estimated or actual costs, the ratio of the cost of production to capital employed (CP/CE ratio) must be established. The agreement of this ratio with the contractor is a further responsibility of AS(PE). In their reports the Review Board comment and make recommendations on the accounting conventions to be applied to Government business, in particular on the treatment and allowability of overhead expenses. They have similarly dealt with the accounting conventions used to compute CP/CE ratios which are used by contracts branches as the base from which profit rates are agreed with individual contractors. It might be thought that as the Review Board have spelt out the accounting conventions and guidelines to be followed in computing overhead rates and CP/CE ratios, the establishment of these rates and ratios would be in the nature of a routine arithmetical exercise. However this is far from the true position for the perhaps obvious reason that whereas the Review Board reports on the basis of facts and figures derived from a wide sample of industry, the task of AS(PE) is to agree rates and ratios with individual contractors and to try to apply the accounting conventions in a consistent manner to several hundred contractors, no two of whom operate precisely similar costing and accounting systems. It will be realised that to do this requires not only a broad and detailed knowledge of accounting, but also in a large measure tact, negotiating qualities and the ability to get on with people.

Planning the work

In order to provide a service to contract branches to enable them to administer and price contracts the programme of work in AS(PE) has to be planned so that as far as is possible all requests are met within an acceptable time scale. For a typical medium to large MOD contractor the interested contracts branches inform AS(PE) in October of their pricing programme for the forthcoming year. From this information AS(PE) requests the contractor to provide claims which would probably include actual overhead expenses and rates for the past year and an estimate for the forthcoming year, together with a claim for the CP/CE ratio based on audited accounts and if possible an estimate of the CP/CE ratio for the current year. The contractor is required to give dates when the claims will be ready for examination and AS(PE) plans accordingly. Early in the contractor's year AS(PE) agrees with him provisional rates of overhead recovery to be used for progress payment purposes until final rates are agreed. In addition the con-

tracts branches submit requests to AS(PE) to examine the contractor's claims for non-risk contracts and the programme of work must take these into account. In a perfect world this would all run smoothly. In practice dates are rarely met, claims do not arrive on time and the work programme is subject to constant review. Staff have to be moved to cope with the changes in the work load and there is a constant pressure to try to get overhead rates, particularly estimates for risk contracts, agreed before the end of the contractor's financial year. These problems have been exacerbated during the last few years because of inflation. In a period of economic and financial uncertainty there is an understandable reluctance on the part of negotiators to commit themselves to fixing prices when future trends of costs are so difficult to forecast.

Other responsibilities

Although the bulk of the work of AS(PE) lies in the field of investigation into contractor's claims for costs, overhead rates and CP/CE ratios, the branch is also involved in other areas of defence work. The major development and production contracts are managed by multi-discipline project teams. Staff of AS(PE) form part of these teams and may be called upon for information and advice on the financial and accounting aspects of the projects. Some of the major projects are multi-national and here the accountant may be called upon to work with his overseas counterparts and to identify areas of difference in the accounting procedures of other countries and their possible impact on the project. AS(PE) as the only professional accountancy branch in the Ministry of Defence is normally consulted by other branches on matters of an accounting nature, particularly where relationships with industry or outside bodies are involved. The role of the Review Board for Government Contracts was referred to earlier and in this connection AS(PE) is involved with the Treasury and the policy branch of DGDC in submitting evidence to the Board about the treatment of items of expenditure and capital employed, and the structure of the profit formula. This also entails discussions with contractors' representative bodies such as CBI and the Society of British Aircraft Constructors. A Standard of Accounting Practice for the treatment of inflation in accounts has recently been approved by the professional accountancy bodies. This standard is to be operative for financial years commencing 1st January 1980 and will apply to all major defence contractors. The effect of the implementation of the standard on the profit formula and on the whole area of government pricing is another of the problems which AS(PE) will assist in solving.

Change, and the future

Although the main function of AS(PE) is the provision of a service to contracts branches to assist them in their task of negotiating fair and reasonable prices with industry, and this has remained so for many

years, the way in which this task has been performed has changed. The age of hand-written records has gone long ago and contractors' accounting and costing systems are extremely complicated and are usually maintained by sophisticated computerised systems. Individual contractors of 30 years ago have by mergers, takeovers and nationalisation become giant international conglomerates. Major defence projects have become so expensive that many can only be carried out by collaboration between two or more countries. The role of AS(PE) must and is changing as a result of these continuing developments. As systems become more complicated the specialist, whether he be an accountant or an engineer, must expect to be called upon to play a greater part in the control and pricing of projects. Accountants must have an understanding of overseas systems to enable them to reconcile the different costing/pricing conventions operated in different countries. These changes are taking place at a time when, for various reasons, AS(PE) is experiencing difficulty in recruiting and retaining sufficient numbers of qualified staff to carry out the service it is required to provide.

What of the future? The work of verification of costs of non-risk contracts will continue even though there will be changes in the way in which the verification is carried out. Development work, by its very nature, will always be difficult to estimate to a degree of accuracy acceptable for forward pricing. However this aspect of the work will probably occupy a decreasing proportion of the time of AS(PE). The MOD has for several years increased its efforts to have a greater proportion of its non-competitive contracts priced on a risk basis and to price such contracts earlier in their life. To do this it is essential that estimates of overhead rates and CP/CE ratios are agreed by AS(PE) and this means that a greater proportion of total effort will be devoted to this task.

A New COM System in Inland Revenue

A Paterson and R Brooks, Inland Revenue, and B Terry, Civil Service Department

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Background

The computer system at Centre 1, East Kilbride, was intended to be the first of nine computer installations centralising Pay As You Earn (PAYE) records throughout England, Scotland and Wales. In the event, following a change of government and proposals to introduce a scheme of tax credits, it was decided in 1971 to abandon the PAYE computer programme after only the first centre had been set up.

Centre 1 opened in 1968 to deal with 1·9m employees and pensioners on PAYE in Seotland. Initially it suffered considerable adverse press criticism. This was not only because of the teething troubles which arose in bedding down a relatively large computer installation, but also the upheaval in transferring work and staff from local offices to a large clerical concentration required to support the computer system.

Now, over a decade later and with a larger work load, these storms have been weathered and the centre is undoubtedly an efficient PAYE unit. Several hundred additional staff would have been needed to maintain a manual PAYE system in Scotland if a centralised computer system had not been installed. The sophisticated set of computer programs undertake, both daily and periodically, almost all of the routine work inherent in the manual system in use elswhere in the UK.

However, one inevitable limitation of a batch processing system on the scale of the Centre 1 installation is the inability of the Tax Officer (TO) to have immediate access to current information on the taxpayer's computer record. If the taxpayer's paper file cannot help or is unavailable for whatever reason, an input form has to be completed for a computer print of the record. For urgent cases this can be provided within 24 hours but all other cases have to wait three to five working days before the required information can be made available.

Reviewing the PAYE system

A wide-ranging Management Review of the Inland Revenue (IR) within the past five years resulted in the setting up of a number of Regional Management Offices in the UK to oversee and control tax and collection work in their areas. When methods of automating PAYE work were reviewed again the solution most favoured was the creation of data processing centres on a regional basis, with on-line access via terminals from local tax offices.

Since the late sixties an increasingly heavy workload has fallen on the ageing Centre 1 computer system (1 ICL 1904S), and there was a need for a more immediate solution to improve the service to the taxpayer. An urgent initial review by Centre 1 management, Central Computer and Telecommunications Agency (CCTA) and IR specialists concluded that a novel system based on Computer Output Microfiche (COM) might well provide a solution. As a result one of the recommendations from a subsequent PAYE Working Party was for a pilot study to be undertaken without delay to ascertain how COM might improve the service from Centre 1. Financial approval was given for funds to be made available for a COM trial lasting six months using a rented recorder.

Formulating a COM system

Since the Revenue already had a Datagraphix COM recorder operating as a bureau machine at Liverpool and a large proportion of their output consisted of various microfiche indexes produced for Centre 1, some staff were already familiar with the use of microfiche. A Steering Group was formed with staff from CCTA, Centre 1, IR Management Services and Data Processing Division to consider the main requirements of a suitable COM system. These were judged to be as follows:

—the presentation to the TO at reasonably frequent intervals, of an updated set of all his taxpayer's standing records in a manner which allows simple and speedy retrieval in a clearly understandable format;

—the sets of records to be in units which permit flexibility of work allocation, bearing in mind that the Centre 1 records are arranged on a terminal digit basis using the last three figures of the taxpayer's National Insurance (NI) number with a further division to a half terminal digit;

—a solution to be based on the use of the current main file computer tapes and not to involve any reformatting of tapes for microfiche production;

—there should be no requirement for major mainframe software writing.

Development of a COM solution

It was soon apparent that the use of the conventional 48X microfiche format of fixed pages in columns and rows giving 269 pages plus one index page would not provide either the simple retrieval or the packing density necessary for a cost-effective solution.

The records were not suitable for the conventional long line of 132-160 characters and page limitation of 60-86 lines. With the wide variation in record length of 5-35 lines there would be much wasted space if complete records were to be contained within pages.

After discussion with the user, and following tests, a novel sample layout was devised. This consisted of an eye legible title row, a column heading title, and columns 110 characters wide from the top to the bottom of the microfiche without any conventional page breaks. This was achieved by abutting the rows of microfilm page entries to give a 'scroll' appearance to the user. The effect of this change was to increase the total theoretical packing density of 2·2 mb to 3·2 mb. This permitted the placing of at least 1,250 taxpayer records on one microfiche which is equivalent to the number of records held within a half terminal digit—the Centre 1 unit of work allocation. There was also some space to spare for any increase in the size of the record or the number of records. The simple heading showing the first NI number in the column eliminated the need for a separate index.

There was no existing COM software capable of unpacking, decoding, expanding and formatting the complex Centre 1 tapes, nor was there any great confidence among the COM companies we contacted that the mini-computer used to 'front end' COM devices could tackle the task at an acceptable throughput rate. It was clear, however, that unless the Centre 1 systems tapes could be run on the COM device without any mainframe processing a cost-effective system could not be devised. After much deliberation CCTA and IR experts decided that given the best software available the newly-designed microfiche could be produced on a COM system with a mini-computer at a rate better than three-and-a-half minutes per microfiche. Such conviction was not shared by the COM companies but two proposals were obtained which looked promising.

In the short time of six months the successful tenderer, Datagraphix Ltd, working in close co-operation with the Centre 1 Systems Unit produced the specialised software application package named FORM-IR.

When the Datagraphix COM microfiche recorder (Mini-Autocom) with its built-in film processor was delivered to Centre 1, the acceptance trial was completed at the first attempt, with the remarkable average production time of 2 minutes 20 seconds per microfiche—2 minutes 30 seconds for a full microfiche. With a throughput rate now calculable it was possible to consider frequency

of re-issue of the TOs records. This had to be a compromise between the usual subjective desire for the shortest re-issue time and the hard consideration of cost.

The method used to produce COM microfiche from the main computer file was to take a slice of the main taxpayer's file each night. Practical consideration resulted in a decision to trial 5-, 6-, 8- and 10-day re-issue cycles with different sets of users and the production for the COM trial was organised accordingly.

Choosing suitable microfiche readers

It was agreed at an early stage that because of the somewhat unusual features of the system there would be full staff involvement in testing a selection of microfiche readers during the COM trial.

These features were as follows:

—using microfiche in a columnar format;

—not producing copies but letting the TOs use the original silver halide master fiche;

—using a 72x lens so that each taxpayer's record more or less filled the viewing screen.

Finally, and perhaps more significantly, as the reader was to be put on a turntable and shared between two TOs, it was important that there was a general consensus of opinion on an acceptable type of reader. Initially IR Management Services together with HMSO Supplies Division reviewed suitable readers and some six different machines were sent to East Kilbride. A Working Party with official and trade union representation from Unit 4 (the guinea pig section) chose three different models for use on the trial—two with back projection and one with front projection. Twenty of each back projection model and 40 front projection readers were ordered for the trial. Questionnaires were drawn up by IR Managment Services (with management and trade union acceptance) to enable users to comment on their various good and bad points, and the intention was to change the machines round monthly.

Setting up the pilot study

The acceptance trials for the COM recorder with its FORM-IR software took place in late December 1978. The staff in the trial unit were instructed in the use of readers and in the completion of statistical forms to record the usage of fiche and whether it was felt to be out of date. This unit was located to serve four floors of the office block and each floor was to have its microfiche at one of the agreed intervals, ie 5-, 6-, 8- and 10-day spacings.

The first impact of Murphy's Law (that if anything can possibly go wrong it will) occurred at the most inconvenient time, when one batch of readers was held up by the dock strike. This meant

reducing the trial to three or four floors for some two to three months. Nevertheless, the trial carried on and the available readers were interchanged to enable direct comparisons to be made.

Pilot study

No problems were encountered when using the original silver halide microfiche, but it took staff a fortnight or more to accustom themselves to referring to a taxpayer's record on microfiche rather than paper and to the revised layout of the various details. Staff were given opportunities during the trial to comment on the layout. The two points which caused the most adverse comment were the use of asterisks to separate the records (these were changed to dotted lines to universal satisfication) and the NI number reference. This was held in terminal digit order on the computer and reproduced accordingly on the microfiche, but the TO and the public referred to it in its natural order. It was changed when the software was updated and modified. TOs taking part in the trial were appreciative of the speed and efficiency with which changes were made to the microfiche to take account of their preferences.

Generally speaking there were no major difficulties in sharing a reader between two TOs, since only one telephone was available between the same two people. In practice, this meant that the TO dealing with a telephone call had priority on the reader. Slight differences in heights of adjoining desks showed the need for a strong and rigid turntable to bridge any gap. A clear preference emerged early on for the use of back projection readers. This was possibly because the TO could sit back from and to the side of this type of reader and still read the image satisfactorily. The front projection version tended to require viewing from directly in front of the screen. Overall the pilot study quickly revealed that COM records gave a new dimension to the TO's task. The advantages which flowed tended to be cumulative rather than dramatic, with the exception of the reduction in the number of printouts produced. The final batch of readers was released from the docks in early March 1979, following which the whole of Unit 4 became fully operational on COM.

Evaluation of the different periods for producing microfiche showed that both the statistical evidence and the personal views of management and staff coincided in favouring a five-day replacement cycle. This was a noticeable improvement over existing arrangements. This period provided staff with more up-to-date information for dealing with most postal and external office enquiries. As the trial proceeded, some spin-off benefits arose in other areas. For example, it was found possible to pass the week-old microfiche on to staff who had to prepare records for transfer from the Centre when taxpayers moved to jobs outside Scotland. A limited number of reader-printers was needed to produce the occasional full-size copy of a taxpayer record

but it was established that only four machines located in three separate buildings would suffice.

Final evaluation—estimated savings

By mid-1979 the advantages of the COM system were fully established and the following advantages estimated for a total system:

—there was an almost complete elimination of computer printouts requested by TOs. Tight management control was exercised in this area since an Inspector's authority was needed to obtain a printout. This resulted not only in a saving in paper but also in TO time in that TOs no longer needed to re-familiarise themselves with cases that had been put away to await the return of a printout of the taxpayer's record;

—punching and verification of input forms requesting printouts was also eliminated;

—telephone calls from taxpayers and other tax offices were more speedily and efficiently dealt with. In the past it had often been necessary to call the enquirer back because the necessary information was not to hand. The cost of these calls was saved;

—as a result of being more up to date the TOs had less reminding post to deal with and thus fewer letters to dictate and have typed.

The overall savings based on a discounted cash flow factor of 7 per cent were estimated to be £350,000 over a ten-year period, with an annual saving thereafter of £84,000. Another important factor was the increase in job satisfaction for TOs, who could deal with queries more promptly and effectively and thus feel they had more control over their work.

Full implementation

The Steering Group recommended full implementation of the COM system which involved purchasing the rented COM recorder, another similar machine and a further 500 back projection readers.

Extended discussions followed between Centre management, the Inland Revenue Staff Federation and the local Trade Union Side concerning the redeployment of the displaced staff. Agreement was reached that such staff would be transferred to other essential work within the Centre. Although the negotiation inevitably held over full implementation, all six Units in the Centre are now fully operational.

Some reflections

Given a co-operative user, a clearly defined task and a flexible technology, novel cost-effective systems can be designed, developed and implemented quickly.

The COM system described has broken new ground in two distinct areas:

- the running of complex and highly-packed computer systems tapes on a small (32 kb) mini-computer has given an acceptable level of microfiche throughput thanks to good systems definition, documentation and elegant programming;
- the design of a unique simple microfiche format has met precisely the user requirement yet with a high, cost-saving, packing density.

Perhaps the achievement of obtaining 145 highly-packed microfiche from one reel of 1,600 bpi magnetic tape warrants inclusion in the Guinness Book of Records. It certainly means the COM tape drives are unlikely to wear out.

As a postscript it is hoped that the Notice of Coding (Form P2) will be added to the above system on separate microfiche to give additional savings at little extra cost. Other cost-effective COM applications are now emerging from within Centre 1 for consideration.

Acknowledgements

Our appreciation and thanks for the success of the pilot study are due to:

—management and staff in Unit 4 at Centre 1 who cheerfully absorbed the inevitable upheaval involved in the implementation of a pilot COM system whilst still keeping the work going;

—senior management, particularly Mr W Linkie and Mr G Woods, for their support for the scheme throughout the trial; and

—the members of the Working Party who were available for consultation during the trial and made many helpful suggestions.

Computer Training — Professional Level

In September 1974 the Civil Service College launched the first part-time course (of nine students) to prepare computing staff for the Part 1 examinations of the British Computer Society. Since those small beginnings there has been a substantial increase in the number of the courses run each year and up to the present 406 civil servants have been trained in this way.

As those figures show, this form of training has proved to be very popular. It has also proved to be a very successful way of preparing for the Part 1 examinations which are at Higher National Diploma level. The examination results have always been well above the national average.

The training has also been successfully exported to a number of Polytechnics (North Staffordshire, Thames, Kingston and Brighton) at which the Civil Service College has sponsored students. During the courses the College maintains close links with the Polytechnics and with the students. The examination results obtained by Polytechnic students are comparable with those obtained by students taught at the Civil Service College. In the April 1980 examination they were:

Papers passed

Civil Service College	92
Polytechnics	145
Total	237

Pass rates

Civil servants	97 per cent
National	68 per cent

(Each student sits two papers)

The pattern of training has changed over the years to cope with the demand, with an increasing number of places being provided at Polytechnics. 1979/80 was the first year in which the College sponsored more students on Polytechnic courses (73) than it taught on its own internal courses (49). The pattern will continue in 1980/81 with the total number of places available being increased to 144.

This is the largest number of places offered to date by the College. The courses will be presented at the Civil Service College, North Staffordshire Polytechnic, Brighton Polytechnic, Kingston Polytechnic and North Gloucester College of Technology.

A part-time course to prepare students for the Part 2 examination of the British Computer Society was launched at North Staffordshire Polytechnic in 1979/80 to prepare students for the April 1981

examination. A similar part-time course will be run in 1980/81 for the April 1982 examination.

In addition, four students are being sponsored by the Civil Service College on the full-time MSc course in the Design of Information Systems at the Royal Military College of Science, Shrivenham.

Details of the entire 1980/81 Systems Training Programme covering both Computers and Management Services are given in a brochure obtainable from Secretariat, Civil Service College, Sunningdale Park, Ascot, Berks SL5 0QE) Tel: Ascot (0990) 23444 ext 233 or GTN 2092-233).

Further details about training for the examinations of the British Computer Society can be obtained from Mr C E G Port, Civil Service College, 11 Belgrave Road, London SW1V 1RB (Tel: 01-834 6644 ext 324).

Some recently published books received by the editor.

Management and production, by Ray Wild.
Penguin Books Ltd. 249pp. £2·50 (paperback).

The Social Psychology of industry, by J A C Brown.
Penguin Books Ltd. 336pp. £1·50 (paperback).

From hand to mouth: Women and piecework, by Marianne Herzog.
Penguin Books Ltd. 155pp. £2·95

Case method in management development: guide for effective use, International Labour Office. 264 pp. £5.

Consulting Unions about Assignments

The Code of Practice set out below has recently been agreed between the Official and Trade Union Sides of the Civil Service National Whitley Council

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Introduction

This Code of Practice, which has been agreed by the Official and Staff Sides of the Civil Service National Whitley Council, is issued as guidance on the arrangements for consultation when Departments undertake or commission management services, or computing consultancy assignments to help them to consider the systems, organisation or methods for carrying out their work.

Separate documents have been agreed between the Official and Staff Sides of the Civil Service National Whitley Council dealing with arrangements for consultation on management reviews, on schemes for improving management systems and on the use of the computing services industry for contracted-out systems and programming work or the hire of staff.

The Code applies to assignments which involve direct study of an area of work which is carried out by non-industrial civil servants, whether these are undertaken by members of the staff of the Department; or of any other Department or Departments; or by persons engaged for the purpose from outside the Civil Service; or by any combination of these.

The Code does not apply to normal departmental arrangements for reviewing work nor to day-to-day advice and assistance, within or between Departments, concerned with the review or minor improvement of existing arrangements.

Arrangements for consultation

The intention to undertake or commission an assignment to which this Code applies should be notified to the appropriate Staff Side as early as possible to provide them with an opportunity to discuss it. The notification should state the intended scope and purpose of the assignment, its likely timing and duration and whether any of the persons to undertake it are to come from outside the Department. In the latter event the notification should indicate what type of outside assistance it is intended to employ. If persons to be engaged from outside the Civil Service are to be employed on an assignment, the notification should include a statement of the reasons why this is considered to be necessary.

If the Staff Side so wish they should be given an opportunity to meet

the assignment team, before the assignment commences if this is practicable, to present any views which they wish to have taken into account; to express further views in the course of the assignment; or to obtain further information about the assignment.

Disclosure of reports and implementation

It is recognised that it is increasingly the practice for assignments to proceed on the basis that if scope for improvement is revealed before they end, appropriate recommendations may be made at the time, sometimes without a written report. If, however, a report is made on the completion of an assignment, management should make it available to the Staff Side, if necessary in confidence. Mutually convenient arrangements for doing this should be worked out with the Staff Side. Management retain the right exceptionally to withhold any particular report, in whole or in part, but if a report is withheld the reasons would be explained, in confidence if appropriate, to the Staff Side.

The Staff Side should be given opportunity for full discussion of management's intentions and plans for action to be taken as a result of the assignment, whether such action is proposed to be taken during the assignment or after it has been completed and whether or not the proposed changes result from a written report.

General

The term 'Staff Side' should be interpreted as covering the appropriate form of consultation for each case, i.e. a Staff Side or an individual trade union.

Within the guidance set out in this Code of Practice, detailed procedures will be for determination within individual Departments.

This Code of Practice will be kept under review by the Civil Service National Whitley Council Joint Committees on Management Services and on Computers, sitting jointly.

Computer Installations for Government Departments

A list of all Government computers as at 1 January 1980 was published as a supplement to the August 1980 edition. Details of computers ordered during the period 1 January to 30 June 1980 are shown in the following table.

DATE OF ORDER	DEPARTMENT[1]	LOCATION	MAIN USES	MANUFACTURER[2] AND TYPE OF COMPUTER
1B Computers on order for administrative and general purposes				
August 1979	MAFF	Guildford	Front-end processor	GEC 40/85
May 1980	MOD (PE)	Various locations	OASIS project	DEC, HIS, MAI, SPERRY Mini-computers
June 1980	MOD (PE)	Bath	Computer-aided ship design	DEC PDP 11/55
June 1980	MOD (PE)	Chorley	Administrative purposes	ICL 2960/10
April 1980	MOD (Army)	BAOR	Management	CSF Minicomputers (×6)
June 1980	HO	Bootle	Administrative computing, payroll, INDECS statistical systems	ICL 2960/10 (m2)
April 1980	COI	London	On-line booking/distribution of films in the Central Library	CTL 8046/256 Turnkey system
February 1980	IR	Cumbernauld	Collection and accounting of tax	Dual ICL 2982
February 1980	IR	Shipley	Collection and accounting of tax	ICL 2982
March 1979	DNS	Glasgow	National savings	Dual ICL 2972
June 1980	DNS	Glasgow	National Savings Bank	Dual ICL 2972
March 1980	PGO	Crawley	Pensions and banking	ICL 2976
March 1980	HMSO	Various locations	Stock control systems	GA Mini-Tom (×6)
April 1980	HMSO	London	Publications distribution system	HP 3000 (×2)
March 1980	DTp	Swansea	Driver and vehicle licensing	ICL 2960

DATE OF ORDER	DEPARTMENT[1]	LOCATION	MAIN USES	MANUFACTURER[2] AND TYPE OF COMPUTER
2B Computers on order for scientific and technical purposes				
October 1979	MOD (PE)	RAE Farnborough	Research and development work	Prime 750
December 1979	MOD (PE)	RAE Bedford	Research and development work	Prime 650
February 1980	MOD (PE)	RAE Farnborough	Centralises input	IBM 4331
April 1980	MOD (PE)	RAE Farnborough	Microcomputer workshop	DEC PDP 11/34
November 1979	MOD (Air)	Met. Office Bracknell	Number crunching	CD Cyber 203E
December 1979	MOD (Army)	DADPTC Blandford	To dual existing machine	HP 3000
April 1980	MOD (Army)	RMCS Shrivenham	Training package	HP 9845T
September 1979	MOD (Navy)	Fareham	Training of artificers	Prime 550
November 1979	DI	Teddington	Protocol research/development	GEC Minicomputer
March 1980	DI	Newport	Statistical work	ICL 2982

[1,2] Refer to supplement to August 1980 edition for Department and Manufacturer keys. Abbreviations for the following manufacturers are included for the first time: MAI—MAI United Kingdom; CFS—Computer Facilities Software; CD—Control Data.

New CSD Publications

This is a list of the documents recently issued by the Civil Service Department and its associated bodies. It includes material from the Central Computer and Telecommunications Agency and the Civil Service College as well as from CSD itself.

These items may be examined in the Central Management Library, Civil Service Department, Old Admiralty Building, Whitehall, London SW1A 2AZ.

Unless otherwise stated, requests for copies should be sent to the Central Management Library, CSD, at the above address. HMSO publications may be ordered from PO Box 569, London SE1 9NH; from Government Bookshops; or through any bookseller.

Handbook for Government Telephonists
2nd ed 1980; 20pp; gratis
(Braille version also available)

Inland Revenue: Experimental Tests of Numeracy (second report), by B M Moore
1980; 9pp; gratis
Recruitment Research Unit report No 12

Interchange of Staff Between the Home Civil Service and Industry: Report for 1979
1980; 6pp; gratis; ISSN 0143-2001

Malaria
2nd ed 1980; 8pp; gratis
Medical Advisory Service Health Series No 3

Rabies
2nd ed 1980; 9pp; gratis
Medical Advisory Service Health Series No 2

Statutory Instrument Practice
1980; looseleaf; £20·00; ISBN 7115 0013 4

Transferring Your Pension Rights
1980; 5pp; gratis

Validation of the Language Test Battery (LTB), by B M Moore
1980; 14pp; gratis
Recruitment Research Unit report No 11

Central Computer and Telecommunications Agency

Microcomputer Newsletter
No 7 June 1980; 12pp; gratis; ISSN 0143-2672

Civil Service College

The Role of Planning Units in Departments and Lessons from Management Reviews, by S D Walker
1980; 10pp; gratis
CSC Working Paper No 22

Sunningdale Park: Administrative Guide
1980; 15pp; gratis; ISBN 7115 0024 X
Systems Training Courses: Programme, September 1980—August 1981
1980; 55pp; gratis; ISSN 0143-1900
Youth Policies in the USA: Employment and Preparation for Employment, by G Cohen
1980; 17pp; gratis
CSC Working Paper No 21

Civil Service Commission
Annual Report 1979
1980; 57pp; gratis; ISSN 0141-0024
Civil Service Careers 1981: GCE/CSE Level
1980; 15pp; gratis; ISSN 0142-7903

Letter to the Editor

Sir
Civil servants should be grateful for Mr Wilding's article (November 1979) on the Professional Ethic of the Administrator. Two points, however, seem to need further attention.

(i) He says (p 183) that in theory and in principle there is no basis on which the civil servant can seek to impose his own values on the course of Government action. Yet he does. Yes, Minister? It would seem, therefore, that Mr Wilding's following contention—that the whistle-blower can only register a foul against his Minister—is not valid.

(ii) Laodiceans (p 184). Yes, indeed; but administrators (and senior professionals) would, I submit, do well to consider the troops down the line. They are expected to be dedicated. They should not be expected to accept with resilience and humour repeated disappointment and frustration (p 185).

Yours faithfully

Gordon Cole

Lately Chief Engineer, MAFF
Field End
Deepfield
Datchet
Berks SL3 9JS

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